# U.S. Coast Guard
## Marine Safety Office, Portland, Maine

# SAFETY ALERT '01-04
## Winch Set-Up, & Operating Considerations


Figure 1. Typical barrier guard

Approximately 20 percent of reported injuries occurring aboard commercial fishing vessels are winch related.

During a recent study of fishing vessels, the Coast Guard has found that: most of these vessels are equipped with manually activated detent type winch control valves; most require manual line steering; and most winches are guarded by a single bar which doubles as a support for a steering pipe. These practices are so common that many fishermen fail to realize the dangers involved.

Guards form a barrier between personnel and exposed hazards. Winches should be equipped with barriers that cover drives as well as the winch spools. Guards, such as the one depicted in figure 1, are very common unfortunately they offer limited protection. Guards should enclose as much of the winch spool as possible.

Manual line steering places personnel in close proximity to the winch mouth. This is a very dangerous practice. Even the most experienced and alert operator is subject to distractions, slipping, or being caught off guard by a wave, any of these events can place the operator in contact with the winch line. Once this happens, crewmates have no time to react. Line steering is made even more dangerous when operators are inexperienced or fatigued.

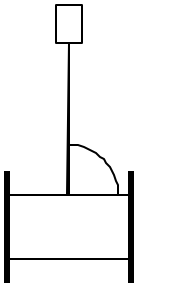
Figure 2. Proper winch alignment

To avoid line steering fishermen have two options. The first and best option is to install an automatic line steering system. Unfortunately, many fishermen find these systems cost prohibitive. The next best solution is to check the alignment of the winch line with the towing block (fairlead). In many cases the line will steer on level with proper fairlead. This is especially important on vessels with the split winch


A-Sheave wear


B-Eye bolt elongation


C-Eye wear


D-Bearing wear

Figure 3. Block inspection

configuration. The line should come off the winch at 90° when properly aligned with the towing block as shown in figure 2.

Towing block sheaves should be inspected for excessive wear. Wear patterns may indicate improper alignment. Also inspect blocks for excessive wear on the eye, stretching of the eyebolt shank, and worn bearings.

Winch control valves are most often located at the winch or the vessel's operating station. The safest control valves to use are self-centering or "dead man" type. These valves require the winch operator to continuously hold the valve lever to operate the winch; once the operator removes his hand from the lever the winch stops. This forces operators to remain at the controls during winch operation.

If a dead-man control valve is not used, winches should be equipped with an emergency stop. Emergency stops should be installed in such a way that personnel falling towards the winch mouth will activate it without having to think. This can be done by placing a push bar across the winch mouth. The push bar is attached to a selector valve. When activated the selector valve will divert flow of hydraulic fluid from the winch motor to the reservoir, stopping the winch. There are a number of ways to rig an emergency stop, fishermen should consult an engineer for the best design for their winch installation.

**For more information please contact:**
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http://www.uscg.mil/d1/units/msoport/

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